

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-38 (Cancelled)

39. (Currently Amended) A method of making a battery comprising:

forming a strip of interconnected grids from a grid material, each interconnected grid including a ~~network bordered by at least one frame element, one of the frame elements having a current collector, the network comprising a plurality of spaced apart grid elements~~ wires, each ~~grid element~~ wire having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces ~~in the network~~;

~~forming~~ modifying at least a ~~portion one~~ of the ~~grid elements~~ wires at a position intermediate the opposed ends of the ~~grid element~~ wire such that a first transverse cross-section taken intermediate the opposed ends of the ~~grid element~~ wire differs from a second transverse cross-section of the wire taken at one of the opposed ends of the ~~grid element~~ wire;

applying paste to the strip; and

cutting the strip to form a plurality of plates.

40. (Cancelled)

41. (Currently Amended) The method of Claim 39 wherein ~~forming~~ modifying at least a ~~portion one~~ of the ~~grid element~~ wires comprises:

applying a torsional stress to the ~~grid wire element~~ at the position intermediate the opposed ends of the ~~grid element~~ wire thereby rotating at least a portion of the grid element wire.

42. (Currently Amended) The method of Claim 39 wherein ~~forming~~ modifying at least a ~~portion one~~ of the ~~grid elements~~ wires comprises:

stamping the ~~grid element~~ wire at the position intermediate the opposed ends of the ~~grid element~~ wire.

43. (Previously Presented) The method of Claim 42 wherein the first transverse cross-section substantially has a shape selected from the group comprising diamond, oval, rhomboid, hexagon, and octagon.

44. (Currently Amended) ~~The method of Claim 43~~ A method of making a battery comprising:

forming a strip of interconnected grids from a grid material, each interconnected grid including a network bordered by at least one frame element, one of the frame elements having a current collector, the network comprising a plurality of spaced apart grid elements, each grid element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the network;

forming at least a portion of the grid elements at a position intermediate the opposed ends of the grid element such that a first transverse cross-section taken intermediate the opposed ends of the grid element differs from a second transverse cross-section taken at one of the opposed ends of the grid element;

applying paste to the strip; and

cutting the strip to form a plurality of plates;

wherein forming at least a portion of the grid elements comprises stamping the grid element at the position intermediate the opposed ends of the grid element;

wherein the first transverse cross-section substantially has a shape selected from the group comprising diamond, oval, rhomboid, hexagon, and octagon; and

wherein the network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

45. (Currently Amended) ~~The method of Claim 39~~ A method of making a battery comprising:

forming a strip of interconnected grids from a grid material, each interconnected grid including a network bordered by at least one frame element, one of the frame elements having a current collector, the network comprising a plurality of spaced apart grid elements, each grid element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the network;

forming at least a portion of the grid elements at a position intermediate the opposed ends of the grid element such that a first transverse cross-section taken intermediate the opposed ends of the grid element differs from a second transverse cross-section taken at one of the opposed ends of the grid element;

applying paste to the strip; and

cutting the strip to form a plurality of plates;

wherein the network and each of the frames define opposed substantially planar surfaces, and each second transverse cross-section does not extend beyond the planar surfaces.

46. (Previously Presented) The method of Claim 41 wherein forming the strip of interconnected grids from a grid material comprises:

feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip; and

punching grid material out of the strip to form the strip of interconnected grids.

47. (Previously Presented) The method of Claim 46 wherein the continuous strip of the grid material is formed by a continuous casting process.

48. (Previously Presented) The method of Claim 46 wherein the continuous strip of the grid material is formed by a rolling process.

49. (Previously Presented) The method of Claim 41 wherein forming the strip of interconnected grids from a grid material comprises:

feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip;

piercing apertures in the strip of grid material; and

laterally expanding the strip of grid material to form the strip of interconnected grids.

50. (Previously Presented) The method of Claim 41 wherein forming the strip of interconnected grids from a grid material comprises:

melting the grid material;
continuously casting the grid material to form a continuous web; and
rolling the web to form the strip of interconnected grids.

51. (Previously Presented) The method of Claim 41 wherein forming the strip of interconnected grids from a grid material comprises:

melting the grid material; and
continuously casting the grid material to form the strip of interconnected grids.

52. (Currently Amended) The method of Claim 41 further comprising ~~forming~~ modifying at least a portion of at least one of the nodes before applying paste to the strip.

53. (Cancelled)

54. (Cancelled)

55. (Currently Amended) The method of Claim 39 wherein ~~forming the grid~~ modifying at least one of the wires comprises deforming ~~the grid~~ the at least one wire.

56. (Previously Presented) The method of Claim 39 further comprising installing at least one plate in a container.

57. (Previously Presented) The method of Claim 39 further comprising providing acid in the battery.

58. (Currently Amended) The method of Claim 39 wherein the ~~collector~~ comprises plurality of plates each comprise a lug.

59-126 (Cancelled)

127. (New) A method of producing a battery comprising:

forming a strip of connected grids, each of the grids comprising a plurality of wires defining a plurality of open spaces, each of the wires having a pair of opposed ends;

deforming at least a portion of a plurality of the wires, wherein each of the deformed wires has a cross-sectional shape at a point intermediate its opposed ends that differs from the cross-sectional shape of at least one of its opposed ends;

applying paste to the strip; and

cutting the strip to form a plurality of plates.

128. (New) The method of Claim 127 wherein at least one of the opposed ends of at least one of the deformed wires has a generally rectangular shape.

129. (New) The method of Claim 128 wherein the at least one wire has a non-rectangular cross-sectional shape at the point intermediate its opposed ends.

130. (New) The method of Claim 129 wherein the non-rectangular shape is one of a diamond, a oval, an octagon, a hexagon, and a rhomboid.

131. (New) The method of Claim 126 wherein the at least one wire has a non-rectangular cross-sectional shape at the point intermediate its opposed ends.

132. (New) The method of Claim 131 wherein the non-rectangular shape is one of a diamond, a oval, an octagon, a hexagon, and a rhomboid.

133. (New) The method of Claim 127 wherein the step of deforming at least a portion of a plurality of the wires comprises rotating the portion of the wires.

134. (New) The method of Claim 127 wherein the step of deforming at least a portion of a plurality of the wires comprises coining the portion of the wires.

135. (New) The method of Claim 127 wherein the step of forming a strip of connected grids comprises providing a strip of material and removing portions of the strip of material to define the grids.

136. (New) The method of Claim 135 wherein the step of removing portions of the strip of material comprises a progressive punching operation.

137. (New) The method of Claim 127 wherein the strip of material is formed in a continuous casting process.

138. (New) The method of Claim 127 wherein the strip of material is formed in a continuous casting process.

139. (New) The method of Claim 138 wherein the strip of material is also formed in a rolling process.
